# SQL Assignment: Student Attendance and Scholarship Evaluation System

Case Study Background  
A university, BrightFuture Institute, maintains a database to evaluate students’ attendance and scholarship eligibility. The administration wants to analyze student attendance records, calculate attendance percentages, and decide who qualifies for scholarships based on attendance and academic performance. Your task is to write SQL queries using arithmetic, comparison, and logical operators to support these requirements.

## Database Setup

Step 1: Create Database

CREATE DATABASE brightfuture\_db;

Step 2: Create Table

CREATE TABLE students (  
 student\_id SERIAL PRIMARY KEY,  
 student\_name VARCHAR(50),  
 course VARCHAR(50),  
 total\_classes INT,  
 attended\_classes INT,  
 percentage NUMERIC(5,2),  
 marks INT,  
 admission\_year INT  
);

Step 3: Insert Sample Data

INSERT INTO students (student\_name, course, total\_classes, attended\_classes, percentage, marks, admission\_year)  
VALUES  
('Amit Kumar', 'BCA', 100, 90, 90.00, 85, 2021),  
('Priya Sharma', 'BBA', 100, 75, 75.00, 70, 2022),  
('Rahul Verma', 'BCA', 100, 60, 60.00, 55, 2020),  
('Neha Patel', 'MBA', 100, 95, 95.00, 88, 2019),  
('Kiran Das', 'B.Com', 100, 80, 80.00, 65, 2023),  
('Anjali Rao', 'MBA', 100, 50, 50.00, 45, 2022),  
('Rohit Mehta', 'BBA', 100, 85, 85.00, 82, 2021);

## Assignment Questions

### Part A: Arithmetic Operators

1. Calculate attendance percentage for each student using (attended\_classes \* 100) / total\_classes.  
2. Show bonus marks as 5% of marks for students with attendance ≥ 85%.  
3. Increase marks by 3 points for students admitted before 2022.  
4. Calculate total score = marks + bonus (bonus = 5% of marks if attendance ≥ 85 else 0).

### Part B: Comparison Operators

5. List students whose marks are greater than 80.  
6. Find students admitted after 2020.  
7. Retrieve students whose attendance percentage is between 70 and 90.  
8. Show students whose course is not 'MBA'.  
9. Identify the student with the highest marks.

### Part C: Logical Operators

10. Display students in the BCA course AND marks greater than 75.  
11. Find students enrolled in BBA OR MBA courses.  
12. List students who have marks > 70 AND attendance > 80 AND admission\_year < 2023.  
13. Show students who are NOT from the B.Com course.  
14. Identify students with marks < 50 OR attendance < 60.